



## ***Henricia pumila* sp. nov.: A brooding seastar (Asteroidea) from the coastal northeastern Pacific**

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### **Abstract**

A small species of the seastar genus *Henricia* Gray, 1840 occurs along the cool temperate Pacific coast of North America from near Sitka, Alaska to just south of Ensenada, Baja California, Mexico. Its small adult size, mottled aboral colors, and benthic external brooding reproductive mode have long been noted, but it has never been formally separated from the larger, free-spawning *Henricia leviuscula* (Stimpson, 1857), with which it has been confused. Here we amplify the description of *H. leviuscula*, based on examination of the holotype and new specimens, and restrict it to only one of several similar species that co-occur in Puget Sound and vicinity. We also describe the small mottled brooder as *Henricia pumila* **sp. nov.**, characterize its distribution, and contrast its morphology with *H. leviuscula* based on the arrangement of marginal plates and the microanatomy of aboral spines.

**Key words:** North America, cool temperate Pacific coast, Echinodermata, Asteroidea

### **Introduction**

Several northeastern Pacific (North American “West Coast”) members of *Henricia* Gray, 1840 have long been collectively known as *H. leviuscula* (Stimpson, 1857), whose type locality is Puget Sound, Washington. The popular assignment of most shallow water West Coast *Henricia* to a single species, despite considerable apparent variation in form and color, is in contrast to the bewildering assortment of nominal species or varieties earlier proposed by echinoderm specialists. One problem is that named species or varieties were often provided only with scantily documented differences in plate numbers or shapes or body proportions. For example, H. L. Clark (1901) introduced new varieties of *Cribella* (= *Henricia*) *laeviuscula* based solely on ray shape and length relative to disc diameter.

In his compendium on Asteroidea of the North Pacific, Fisher (1911:280–295) treated *Henricia leviuscula* as a highly variable species comprising six varieties, designated A to F, and three subspecies. Most interesting to us was Fisher’s characterization (1911: 282–284) of his variety F, a small brooder. He noted its varied aboral coloration of mottled hues of gray, brown, red, orange, yellow, and lavender, its small size at maturity, and its comparatively stout arms. He characterized its brooding mode of reproduction as follows: “...forming for that purpose a concavity about the mouth by arching the disk. The eggs are orange yellow and are hidden by the mother, which in spite of its bright colors, harmonizes fairly well with the coralline on the rocks. However, when brooding the eggs this species is usually found under rocks or hidden between them, in darkness.” These descriptions imply that Fisher examined living specimens of his variety F, in contrast to the preserved specimens of *Henricia* that he usually examined (Fisher 1910, 1911, 1930). He described and photographed body proportions and arrangement of plates and spines, but not fine details of spine tips. This